

claims.

REMARKS

Claims 18-38 are currently pending in the present application. The claims have been amended in the expectation that the amendments will place this application in condition for allowance. The amendments do not introduce new matter within the meaning of 35 U.S.C. § 132. Accordingly, entry of the amendments is respectfully requested.

1. Rejection of Claims 18-38 under 35 U.S.C. § 112, 2nd paragraph

The Official Action states that claims 18-38 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As the basis of this rejection, the Official Action states:

Claims 18-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Claims 18-38 provide for the use of the claimed formulation, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

B. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter.

1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 22 recites the broad recitation of particle size, and the claim also recites the narrower statement of the range/limitation.

C. It is unclear what type of average weight is intended by claim 23 and what type of average particle size is intended by claim 22, i.e. number, weight, viscosity, z, etc. averages.

Applicants respectfully traverse this rejection. Regarding the §112, second paragraph rejection, caselaw has defined two requirements under the statute: (1) whether the applicant has stated the invention as something elsewhere in the application which would not fall under the scope of the claims; and (2) whether the claims would be communicated with a reasonable degree of particularity and distinctness to a person skilled in the art in light of the content of the disclosure and the teachings of the prior art. MPEP §2171, §2173, and §2173.02.

Applicants thank the Examiner for his suggestions regarding the claims. Accordingly, applicants have amended claim 18 to set forth a positive step involved in the claimed method as requested by the Examiner. Further, applicants have amended claim 22 to remove the term "preferably" as requested by the

Examiner.

Regarding the Examiner's rejection that it is unclear what type of average particle size and average weight are intended by claims 22 and 23, respectively, applicants respectfully submit that these claims as presently pending are both clear and definite. In particular, claim 22 specifies an average particle size of from 100 to 500 nm. Accordingly, a person of skill in the art would understand that a numeric average of the length, or size, of the particles is encompassed by the claim. Similarly, claim 23 specifies an average molecular mass of 25,000 to 100,000 Daltons. Accordingly, a person of skill in the art would understand that a numeric average of the molecular weight is encompassed by the claim. Further, the inclusion of the units in each of these claims clearly indicates to a person of skill in the art the type of averages included within the claim scope. Lastly, page 6, lines 18-22 of the instant specification clearly shows that the averages contemplated as a part of the presently claimed invention are numeric averages.

Accordingly, applicants respectfully request the Examiner to reconsider and withdraw the rejection of pending claims 18-38.

2. Rejection of Claims 18-38 under 35 U.S.C. § 101

The Official Action states that claims 18-38 stand rejected under 35 U.S.C. § 101 for the following reasons:

Claims 18-38 are rejected under 35 U.S.C. 101 because the claimed recitation of a use without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Applicants thank the Examiner for his suggestions regarding the claims. Accordingly, applicants have amended claim 18 to set forth a positive step involved in the claimed method as requested by the Examiner, removing the present grounds for rejection.

**3. Rejection of Claims 18, 20-27, 30, 32-34, and 38
under 35 U.S.C. § 102(b)**

The Official Action states that claims 18, 20-27, 30, 32-34, and 38 are rejected under 35 U.S.C. § 102(b) as being anticipated by Brown, U.S. Patent No. 5,137,967.

As the basis of this rejection, the Official Action states:

Claims 18, 20-27, 30, 32-34, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat. No. 5137967 Brown.

Brown discloses an aqueous dispersion of polyurethane and coating floors with it, which falls within the scope of the vaguely claimed method of the instant claims. See the examples for the instantly claimed solids content. It is expected that if any NCO groups remain after the reactions described by the patentee, that they would necessarily be consumed by the water/NCI reaction, it is well understood by the ordinary skilled artisan. The polyurethane of the patentee would necessarily inherently possess the properties required to "act" as required by the instant claims 24-27 and 30, however, it is noted that the instantly claimed method does not require the layers recited after "acts" to be applied. Therefore,

the claims are interpreted as merely requiring the ability to perform the claimed action.

Applicants respectfully traverse this rejection. The test for anticipation is whether each and every element as set forth is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131. The elements must also be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

The presently claimed invention relates to a method for making sports floor covering comprising applying a formulation to a surface. The formulation used in the present inventive methods comprises aqueous, isocyanate-free polyurethane dispersions having a solvent content of ≤ 10 percent by weight.

In contrast, Brown relates to aqueous polyurethane compositions and to films made from such compositions. Brown further relates to yellowing resistant floor coverings. However, Brown does not teach a method for making floor coverings in general comprising applying the disclosed polyurethane compositions to a floor surface, as required by the presently pending claims. Further, Brown only discloses certain yellowing resistant floor coverings generally. Brown does not specifically disclose any sports floor coverings as required by the presently claimed invention. The Examiner is reminded that

a species is independently patentable over a broader genus which that species may fall within.

Additionally, applicants note that the presently claimed invention requires a solvent content of no more than 10% by weight. In contrast, each of Examples 1-16 of Brown uses significant amounts (about 16-17% by weight of the obtained dispersions) of N-methylpyrrolidone as a solvent in preparing the disclosed polyurethane dispersions. Accordingly, the Brown formulations require about 60-70% more solvent than the formulation used according to the presently claimed method, rendering the disclosed compositions significantly structurally different than those used according to the present claims. See *Jeneric/Pentron Inc. v. Dillon Co.*, 54 U.S.P.Q.2d 1086, 1089 (Fed. Cir. 2000). The Brown reference, then, does not teach each and every limitation of the presently pending claims as required by *Verdegaal Bros. v. Union Oil Co. of California* either expressly or inherently. Accordingly, a person of ordinary skill in the art would not have been able to arrive at the presently claimed invention based on the teachings of Brown.

Accordingly, applicants respectfully request the Examiner to reconsider and withdraw the rejection of pending claims 18, 20-27, 30, 32-34, and 38.

4. Rejection of Claims 18-38 under 35 U.S.C. § 103(a)

The Official Action states that claims 18-38 are rejected under 35 U.S.C. § 103(a) as being obvious over Brown (US 5,137,967).

As the basis of this rejection, the Official Action states:

Claims 18-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5137967 Brown. Brown discloses an aqueous dispersion of polyurethane and coating floors with it, which falls within the scope of the vaguely claimed method of the instant claims. See the examples for the instantly claimed solids content. It is expected that if any NCO groups remain after the reactions described by the patentee, that they would necessarily be consumed by the water/NCO reaction, it is well understood by the ordinary skilled artisan. The polyurethane of the patentee would necessarily inherently possess the properties required to "act" as required by the instant claims 24-27 and 20, however, it is noted that the instantly claimed method does not require the layers recited after "acts" to be applied. Therefore, the claims are interpreted as merely requiring the ability to perform the claimed action.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the solids content of the instant claim 19 in the method of the patentee because it is within the ability of the ordinary skilled artisan to determine the viscosity they wish to work with and such a relatively small increase in solids compared with the solids content of the examples would give only predictable increases in the viscosity of the layers applied and predictable changes in coating properties associated therewith. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the conventional additives of the instant claims 28-29, 31, and 25 in the coating of the patentee because they are conventional additives that function as their name suggests. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the parameters of the instant claims 36-37 because they give only predictable results and are within the ability of the ordinary skilled artisan to decide as they wish for a given application.

Applicants respectfully traverse this rejection. The references of record do not teach or suggest applicants'

inventive subject matter as a whole as recited in the claims. The Examiner has failed to establish a *prima facie* case of obviousness against the presently rejected claims.

To establish a *prima facie* case of obviousness, the PTO must satisfy three requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *Amgen Inc. v. Chugai Pharm. Co.*, 18 U.S.P.Q.2d 1016, 1023 (Fed. Cir. 1991). Lastly, the prior art reference must teach or suggest all the limitations of the claims. *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

As stated above in Section 3, the presently claimed invention relates to a method for making sports floor covering comprising applying a formulation to a surface. The formulation used in the present inventive methods comprises aqueous, isocyanate-free polyurethane dispersions having a low solvent content of ≤ 10 percent by weight. This low solvent content produces sports floor coverings that are environmentally safer than those previously known in the art (see page 6, lines 2-3 of the instant specification). Further, the formulation used in the presently claimed methods provides sports floor coverings

that have improved mechanical properties such as tensile strength and elongation (see page 6, lines 3-6 of the instant specification), which are key properties for sports floor coverings.

In contrast, Brown relates to aqueous polyurethane compositions and to films made from such compositions. Brown further relates to yellowing resistant floor coverings. However, Brown does not teach a method for making floor coverings in general comprising applying the disclosed polyurethane compositions to a floor surface, as required by the presently pending claims. Further, Brown only discloses certain yellowing resistant floor coverings generally. Brown does not specifically disclose any sports floor coverings as required by the presently claimed invention.

Further, applicants note that the presently claimed invention requires a solvent content of no more than 10% by weight. In contrast, each of Examples 1-16 of Brown uses significant amounts (about 16-17% by weight of the obtained dispersions) of N-methylpyrrolidone as a solvent in preparing the disclosed polyurethane dispersions. Accordingly, the Brown formulations require about 60-70% more solvent than the formulation used according to the presently claimed method, rendering the disclosed compositions significantly structurally different than those used according to the present claims. See *Jeneric/Pentron Inc. v. Dillon Co.*, 54 U.S.P.Q.2d 1086, 1089 (Fed. Cir. 2000). Accordingly, the Brown reference cited by the

Examiner does not expressly or inherently disclose each and every limitation of the presently pending claims as required by *In re Wilson*.

Additionally, since the formulation used in the presently claimed methods has a significantly lower solvent content than the polyurethane dispersions disclosed by Brown, the sports floor coverings produced according to the presently claimed methods are environmentally safer than the disclosed yellowing resistant floor coverings of Brown. Further, Brown does not provide any teaching that it would be possible to use a formulation having a significantly reduced solvent content to arrive at a floor covering which still provides excellent mechanical properties such as tensile strength and elongation, essential properties of a sports floor covering. Accordingly, a person of ordinary skill in the art would have had no motivation to modify the disclosure of Brown to arrive at the presently claimed invention as required by *In re Fine*.

Lastly, the disclosure of the Brown reference is directed to non-yellowing films which are used as coatings on synthetic resin floor coverings, such as polyvinylchloride (PVC) backed floor coverings which may be reinforced. See column 4, line 65 to column 5, line 3 of the Brown disclosure. Accordingly, Brown does not provide any specific teachings showing how the disclosed polyurethane dispersions could be used directly as floor coverings, let alone as sports floor coverings as required by the presently pending claims. A person of ordinary skill in

the art, then, would have had no reasonable expectation of success in modifying the disclosure of Brown to arrive at the presently claimed invention as required by *Amgen Inc. v. Chugai Pharm. Co.*

A *prima facie* case of obviousness has not been established because the cited references do not teach or suggest each and every claimed limitation. Further, one of ordinary skill in the art would not have been motivated and would have had no reasonable expectation of success in modifying the Brown reference to make the presently claimed invention as alleged by the Examiner. A person of ordinary skill in the art would not have expected, based on the disclosure of the Brown reference, that formulations having a significantly lower solvent content, such as those used in the presently claimed methods, would provide sports floor coverings which are environmentally safe and have excellent mechanical properties if applied on a surface.

Accordingly, applicants respectfully request the Examiner to reconsider and withdraw the rejection of pending claims 18-38.

CONCLUSION

Claims 18-38 are currently pending in the present application. Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections and allow all pending claims herein.

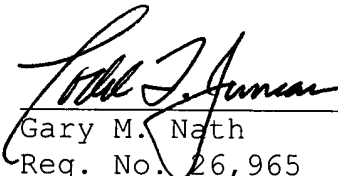
The Examiner is requested to contact the undersigned attorney if he has any questions or wishes to further discuss the merits of the presently pending claims.

Respectfully submitted,

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Date:

Aug. 2, 2002



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BOX PATENT

Attorney Docket No. 24487

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

TEMME et al.

Examiner: P. NILAND

Serial No.: 09/768,274

Art Unit: 1714

Filing Date: January 25, 2001

For: **USE OF AQUEOUS POLYURETHANE DISPERSIONS IN
FORMULATIONS FOR SPORTS FLOOR COVERINGS**

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Appendix A

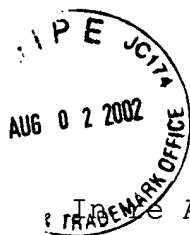
Please amend the following claims as indicated in the following marked up copy of the claims.

18. (Amended) A method for making sports floor coverings comprising [the use of] applying a formulation to a surface, said formulation comprising aqueous, isocyanate-free polyurethane dispersions, wherein said dispersions have a solid matter content of \geq 30 percent by weight and a solvent content of \leq 10 percent by weight.

22. (Amended) A method according to claim 18, wherein the polyurethane polymers of said dispersions form micelles having an average particle size of from 100 to 500 nm[, preferably from 200 to 400 nm].

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Appendix B

Please amend the following claims as indicated in the following clean copy of the claims.

C1
18. (Amended) A method for making sports floor coverings comprising applying a formulation to a surface, said formulation comprising aqueous, isocyanate-free polyurethane dispersions, wherein said dispersions have a solid matter content of ≥ 30 percent by weight and a solvent content of ≤ 10 percent by weight.

C2
22. (Amended) A method according to claim 18, wherein the polyurethane polymers of said dispersions form micelles having an average particle size of from 100 to 500 nm.